

Questions received prior to September 16th for GPS RFP.

9.1 FUNCTIONAL REQUIREMENTS

The specification does not differentiate between Base Station or Reference Station GPS Receiver and Rover GPS receiver.

a. Permanent GPS receiver are different in mission, applications and tasks from a more Dynamic Rover GPS receiver. Are we to assume the RFP wants the same type of receiver, in all functionality and capability to act or function as both a Base and Rover?

For purposes of the RFP, a base station or reference station is defined as any equipment that is meant to be used as a Continuously Operating Reference Station (CORS). Therefore for this RFP, rover equipment is any equipment that is meant to be used for geodetic grade static, fast static or RTK surveying (the equipment is mobile). This may mean for example, that a vendor provides information and cost to provide choke ring antennas and /or typical "rover" antennas along with receivers to match.

The RFP was written so that vendors may supply us with the necessary equipment to do the tasks mentioned within the document. If a vendor can supply one receiver type that has the capability to do everything that is fine. If a vendor feels it is in the best interest to provide proposals with various equipment models to do the various missions provided in the document that too is acceptable. The RFP was written such that the Maine Department of Transportation may move to CORS with broadcast capabilities in the future hence all vendors should account for this in their submittals.

This choice of which equipment to submit to respond to the Departments needs is up to the vendor and their choice should be noted in the RFP response. The Department will accept multiple RFP submissions or variations based on equipment that the vendor chooses to submit.

a.1 The RFP differentiates the GPS product required by requesting costs for both a Rover and Base indicating that they are different , is the correct interpretation of this requirement?

They may be different if the base equipment, as noted above, includes a choke ring antenna and the rover uses the "basic" antenna. What is submitted depends upon the vendor. Please refer to the answer to "a".

9.3 WIDE AREA NETWORK COMPATIBILITY (WSNC)

Is this Wide Area Network different from a "intranet" or Internet " type network of communications or is it a type of Radio network for emergencies and safety such as a 800 or 700 MHZ police system?

The Wide Area Network (WAN) is a computer based network that varies from a Local Area Network (LAN) in that the WAN is interconnected through a series of T1 (Tee-one) lines, dial up and cell phone technology whereas a LAN is typically done by using a direct wire.

if it is a radio network:

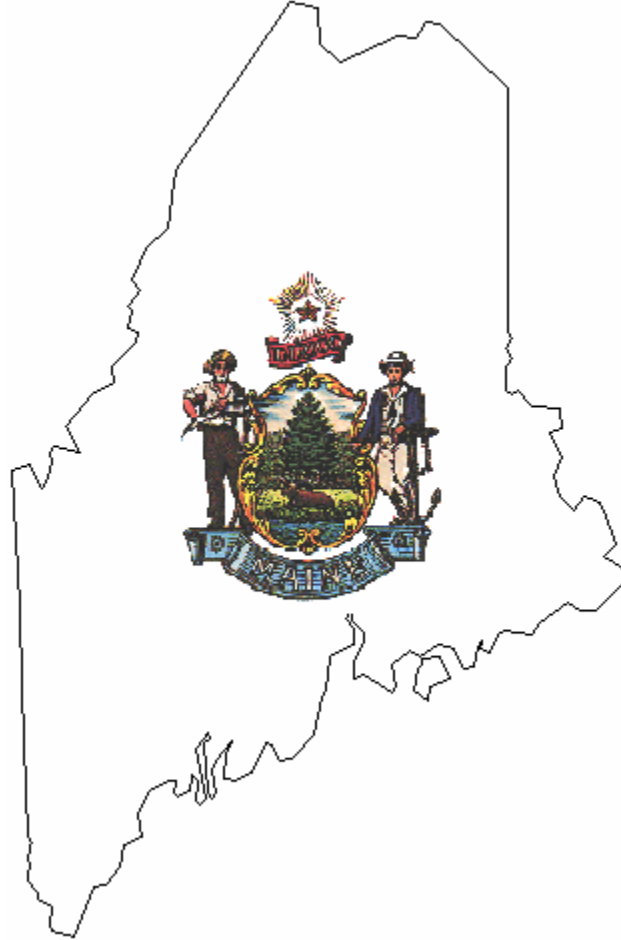
It is not a radio network. See information provided by our IT Unit at end of questions (bottom of next page).

a. Can you elaborate the details of this Wide Area Telecommunications network so that we can propose a implementation plan?

b. Can you forward specific details such as, maps of the nodes, towers, all hardware association, operation software, all protocols, master communication devices, slave or receiving portable receivers and devices, type, size model and make?

c. Can you provide Frequency requirements, duty cycle time and the types of information required to travel through this medium?

d. Can you please provide the Vendor or IP service provider?



State of Maine Network Structure

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The State of Maine's data network consists of a redundant ATM backbone that covers 14 population centers throughout the state. These 14 locations provide network support to more than 500 state government edge sites. Internet service is also provided via ATM. In the capitol area, the three major campuses are supported via a fiber based Metropolitan Area Network (MAN). For management simplicity, the State utilizes a minimum of equipment vendors for the network. The network utilizes OSPF and private 10.0.0.0 addressing.

ATM Backbone - The ATM backbone (Verizon provided) includes locations at: Augusta, Bangor, Calais, Machias, Houlton, Caribou, Lewiston, Rockland, Bangor, Portland, Ellsworth, Biddeford, Presque Isle, Skowhegan, Farmington, and Fairfield. It is a star topology and all of the virtual circuits are shaped to 20mbps. Redundancy is provided by Oxford Networks facilities to Lewiston, Portland, Biddeford, and two locations in Augusta. Additional redundancy is provided by a mesh of 5mbps ATM PVCs among the 14 hub sites. The majority of the ATM switching equipment is provided by Nortel Networks with some Cisco Systems equipment.

ATM hub sites – The ATM hub sites support various quantities of leased circuits in a star topology to the edge sites. The core routers are Cisco 3600-class routers. The Verizon leased circuits are supported by Paradyne and Adtran CSU/DSU equipment. The majority of the edge sites are connected via dedicated, leased T-1 circuits. Small sites are connected via 56kbps DDS-II circuits.

Internet – Internet service is provided via a 20mb PVC to the University of Maine.

Augusta area MAN – The Augusta MAN supports the Capital campus, the East Augusta campus, and the BIS Data Center in western Augusta. It is fiber-based via Adelphia, Oxford Networks, and state-owned fiber plants. There is limited redundancy but this issue is being addressed. The slowest link speeds are 100mb Fast Ethernet with some of the major links being Gigabit Ethernet.

Tim LeSiege would like to apologize to all for not including the following questions on the original Q/A post as he had apparently overlooked an email that was dated Friday, September 16 at 10:52 am. Our apologies for any inconvenience this may have caused.

Page 3 of 46, introduction

What type/model of GPS receivers do the Maine DOT currently own?

The MaineDOT currently owns 1- Trimble 4000 SSI and 2-Trimble 4700 receivers along with 2-Pro-XR by Trimble.

Page 13 of 46, Section 9.1.1

Is it required to have a PC at every CORS location?

Whether or not a CORS location has a PC at it is dependant upon necessity. If it is not needed, we probably will not have one. If the CORS equipment can be directly attached to the WAN we will do so. If a PC or hard drive is needed then one will be located at the site.

Page 13 of 46, Section 9.3

What type of WAN does the state of Maine have? Will the Maine DOT have continual access to it?

Please see above for information about the WAN that the State of Maine has. Yes, MaineDOT has continuous access to the WAN.

It looks as though the DOT wants to use a POTS to Ethernet connection (access through the WAN); will the Maine DOT supply the interface?

MaineDOT will provide the accessibility to the WAN. How the CORS station accesses the WAN may be completely dependant upon the equipment included in the individual vendors submissions for example, direct connection or through a PC. Each vendor should propose how the data will get from the receiver to the WAN. MaineDOT will be responsible for creating the final web distribution site.

Page 12 of 46, 10th bullet

Is the intention to have a 35 watt radio for each CORS base station? What is the intention for these radios; backup or primary real time transmission link?

The RFP suggests that MaineDOT may like to use broadcast capabilities and that any submission should include that possibility. The intention is that while all data will be posted on the internet, the MaineDOT may wish to make it immediately available to users in the area for uses like RTK.

Page 12 of 46, 12th bullet

As an alternative to Windows XP Professional as the OS; would the Maine DOT accept the Windows Network OS?

Yes, a network OS (Server 2003 or later) can be used on a server class device to manage and control the GPS Base Station equipment referenced in this RFQ

Page 14 of 46, section 9.3

Is the state system's WAN operational 24 hours a day, 7 days a week?

Yes, the WAN is operation 24/7 barring any electrical or computer malfunction.

Page 15 of 46, Appendix "A", software section

Please define "rover adjustment software"; is this software that operates on the rover data collector or raw data adjustment processing on the PC?

"Rover adjustment software" is software that will do final GPS data adjustment work in the office. For example, MaineDOT currently uses TGO from Trimble. We will move to whatever software is best for the system purchased.